

REMARKS/ARGUMENTS

In view of the foregoing amendment and following remarks, favorable reconsideration is respectfully requested.

Claim 7 has been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Claim 7 has been cancelled. Accordingly, it is respectfully submitted that the rejection under 35 U.S.C. § 112 has been overcome.

Claims 6, 8, and 10 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of U.S. Patent No. 5,296,288 to Kourtides et al., Sawko et al., *Effects of Weave Architecture on Aeroacoustic Performance of Ceramic Insulation Blankets* (1993), (hereinafter Swako), U.S. Patent No. 4,151,800 to Dotts et al., and U.S. Patent Publication No. 2003/0152769 to Kitagawa et al. Claim 9 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Kourtides, Swako, Dotts, and U.S. Patent No. 4,255,817 to Hiem.

The Office has failed to establish a *prima facie* case of obviousness because the combination of the references fails to disclose or suggest each and every element recited in independent Claim 6. In particular, the combination of references fails to disclose or suggest any one of the following elements:

- 1) forming a felt layer that is a combination of poly(1,3-phenylene isophthalamide) and polybenzazole (PBZ) fibers; and
- 2) an insulation having a felt layer in which the percentage of PBZ fibers is higher near an outer mold line surface (the surface to which the fabric layer comprising ceramic fibers is affixed) of the felt than in a region adjacent to the intermold line surface of the felt.

None of the references, whether considered individually or in combination, disclose an insulation material having a layer that comprises a combination of both poly(1,3-phenylene isophthalamide) and polybenzazole (PBZ) fibers, or an insulation material having a felt layer in which the percentage of PBZ fibers in the felt layer is higher near an outer ceramic fiber layer that is affixed to the felt layer. The Office Action attempts to overcome this deficiency by alleging that Kourtides discloses a composite insulation layer and that this somehow means the insulation layer comprises a layer having more than one component. The Office Action then

uses these allegations for support for combining the insulation layer of Kourtides with PBZ fibers of Kitagawa and Nomex fibers of Dotts.

However, a more informative reading of Kourtides reveals that the Office Action is mistaken in its understanding of the term “composite” and that Kourtides does not disclose or suggest an insulation material having a layer that is a combination of multiple fibers. Kourtides consistently uses the term to composite insulation to mean that the insulation comprises more than one layer, for example a multilayer fabric. At Column 9, lines 43 – 61 of Kourtides describes the term “composite insulation” to mean an insulation system which is composed of more than one component, and lists several examples of composite insulation materials: CFBI, TABI, and AFRSI. All of these types of insulation material are multilayered materials in which each layer contains a different material. For example, U.S. Patent No. 5,038,693 to Kourtides et al. (Kourtides II), which is referenced at column 9, line 49 – 50, describes the composite insulation material as multilayered materials in which each component comprises a separate layer in the insulation. For instance, Kourtides II describes AFRSI as a quilt-like material made of two layers of silica and glass cloth with one layer of fibrous silica felt between them. See column 1, line 51 – 60 of Kourtides II. Throughout, the discussion in Kourtides II, the use of term “composite” in relation to the insulating material consistently refers to multilayered structures in which the different components are disposed in different layers of the insulation. From a reading of Kourtides and Kourtides II, it can be seen that Kourtides uses the term composite insulation to refer to a multilayer structure in which the different components are disposed in different layers. Notably, the insulation material cited by the Examiner at column 11 is a composite insulation (AFRSI). Thus, Kourtides does not disclose a felt layer that comprises two different fibers as recited in Claim 6.

Having established that Kourtides does not disclose or suggest an insulation material having a felt layer that comprises two different fiber materials, the basis of the rejections relying on Kourtides begins to quickly unravel. The Office Action relies on its assertion for combining both Nomex and PBZ fibers into a “first felt layer” based on the false assumption that Kourtides teaches a felt layer that is a combination of two components. Since Kourtides fails to teach a multicomponent layer, there is no support for asserting that it would be obvious to include either

PBZ or poly(1,3-phenylene isophthalamide) in the insulation material of Kourtides, let alone both. Further, neither Dotts nor Kitagawa disclose or suggest an insulation material, let alone a felt layer, that is a combination of Nomex and PBZ fibers, and therefore these references also fail to provide support for the proposed combination.

The combination of references also fail to disclose or suggest an insulation material, and hence a method of making the insulation material, having a felt layer in which the percentage of PBZ fibers is higher near an outer mold line surface (the surface to which the fabric layer comprising ceramic fibers is affixed) of the insulation than in a region adjacent to the innermold line surface of the insulation. The Office Action has failed to disclose or suggest where this claimed teaching can be found in any of the references. If the Examiner wishes to maintain the rejection, it is respectfully requested that the Examiner specifically point out in the references where this teaching can be found so as to afford the Applicant a reasonable opportunity to respond.

The Office Action asserts a composite felt resulting from a combination of the references would result in a higher density of PBZ fibers on one surface and a higher density of poly(1,3-phenylene isophthalamide) on the other surface. However, even if this were true for the sake of argument, there is no teaching in the references of an insulation material having a felt layer in which the percentage of PBZ fibers is higher near a surface (outer mold line) to which a fabric layer comprising ceramic fibers is affixed). As noted above, the Office Action has failed to disclose where such a teaching can be found.

Thus, the combination of references fails to disclose or suggest the claimed invention because the combination of references fails to disclose or suggest any one of the following elements:

- 1) forming a felt layer that is a combination of poly(1,3-phenylene isophthalamide) and polybenzazole (PBZ) fibers; and
- 2) affixing a fabric layer comprising ceramic fibers to an OML surface of the felt layer in which the percentage of PBZ fibers is higher near the OML surface than in a region adjacent to the intermold line surface of the felt layer.

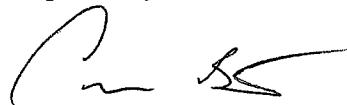
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Therefore, the Examiner has failed to establish a *prima facie* case of obviousness because the combination of references fails to disclose or suggest each and every element recited in independent Claim 6.

In view of the foregoing amendments and remarks, it is respectfully submitted that the rejections under 35 U.S.C. § 112 and 103(a) have been overcome, and that Claim 6 and any claims dependent thereon are in condition for allowance.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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